

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

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In re Letters Patent of:  
Teddy M Keller et al.

Patent No.: RE39,428

Issued: December 12, 2006

For: HIGH TEMPERATURE ELASTOMERS FROM  
LINEAR POLY (SILARYLENE-SILOXANE-  
ACETYLENE)

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**REQUEST FOR CERTIFICATE OF CORRECTION  
PURSUANT TO 37 CFR 1.322**

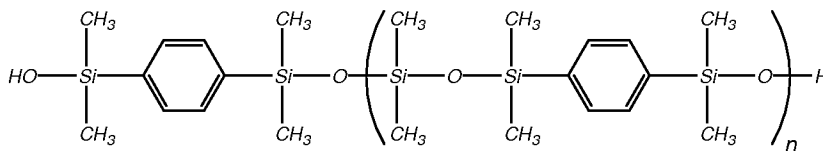
Attention: Certificate of Correction Branch  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

Upon reviewing the above-identified patent, Patentee noted a typographical error which should be corrected.

In the Claims:

In Claim 17, column 12, line 55, the formula should appear as follows:



The printed patent shows the right-most oxygen atom outside of the parentheses (see attached copy). Page 3 of the preliminary amendment filed on 03/25/2004 (and entered on 05/18/2006) shows that the formula was amended as shown above (see attached).

The error was not in the application as filed by applicant; accordingly no fee is required.

Transmitted herewith is a proposed Certificate of Correction effecting such amendment.  
Patentee respectfully solicits the granting of the requested Certificate of Correction.

Dated: December 13, 2006

Respectfully submitted,

Electronic signature: /Joseph T. Grunkemeyer/

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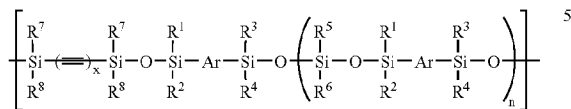
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What is claimed is:

1. A linear polymer comprising repeating units represented by the formula



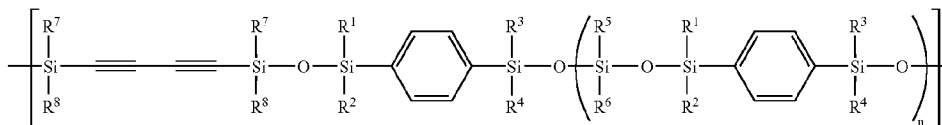
wherein

- (a) n is an integer greater than or equal to 0,  
 (b) x is an integer greater than or equal to 1, and



represents an unconjugated acetylenic group when x is equal to 1 or conjugated acetylenic groups when x is greater than 1;

- (c) Ar is an aromatic group, and  
 (c)  $R^1, R^2, R^3, R^4, R^5, R^6, R^7$  and  $R^8$  are independently selected from the group consisting of alkyl, aryl, alkylaryl, haloalkyl, haloaryl and mixtures thereof.  
 2. The linear polymer of claim 1 wherein x is 2.  
 3. The linear polymer of claim 1 wherein Ar is phenylene.  
 4. The linear polymer of claim 1 wherein  $R^1, R^2, R^3, R^4, R^5, R^6, R^7$  and  $R^8$  are  $CH_3$ .  
 5. The linear polymer of claim 1 wherein n is 0.  
 6. The linear polymer of claim 1 wherein n is 1.  
 7. The linear polymer of claim 1 wherein n is 2.  
 8. The linear polymer of claim 1 wherein n is 3.  
 9. A linear polymer comprising repeating units represented by the formula



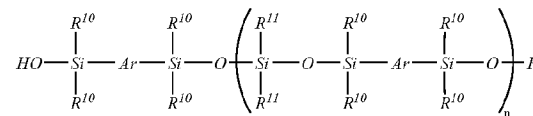
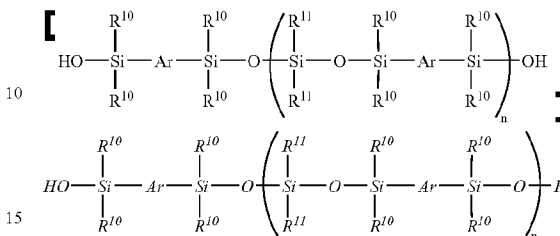
wherein n is an integer greater than or equal to 0, and  $R^1, R^2, R^3, R^4, R^5, R^6, R^7$  and  $R^8$  are independently selected from the group consisting of alkyl, aryl, alkylaryl, haloalkyl, haloaryl and mixtures thereof.

10. The linear polymer of claim 9 wherein  $R^1, R^2, R^3, R^4, R^5, R^6, R^7$  and  $R^8$  are  $CH_3$ .  
 11. The linear polymer of claim 9 wherein n is 0.  
 12. The linear polymer of claim 9 wherein n is 1.  
 13. The linear polymer of claim 9 wherein n is 2.  
 14. The linear polymer of claim 9 wherein n is 3.  
 15. A linear polymer made by a process comprising the steps of

- (a) reacting hexachlorobutadiene with n-butyl lithium to form 1,4-dilithio-1,3-butadiyne,  
 (b) reacting the 1,4-dilithio-1,3-butadiyne of step (a) with (dimethylamino)( $R^9$ -disubstituted)chlorosilane, wherein each  $R^9$  is independently selected from the group consisting of alkyl, aryl, alkylaryl, haloalkyl, haloaryl and mixtures thereof, to form 1,4-bis(dimethylamino,  $R^9$ -disubstituted-silyl)butadiyne,  
 (c) reacting [1,4]-bis(hydroxy- $R^{10}$ -disubstituted-silyl)-Ar, wherein Ar is an aromatic group, wherein  $R^{10}$  is independently selected from the group consisting of alkyl, aryl, alkylaryl, haloalkyl, haloaryl and mixtures

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thereof, with bis(dimethylamino) $R^{11}$ -disubstituted-silane, wherein  $R^{11}$  is independently selected from the group consisting of alkyl, aryl, alkylaryl, haloalkyl, haloaryl and mixtures thereof, to form a prepolymer of the formula:



wherein n is an average value greater than or equal to 0, and wherein the value of n is controlled by selecting the initial molar ratio of [1,4]-bis(hydroxy- $R^{10}$ -disubstituted-silyl)[benzene] Ar and bis(dimethylamino) $R^{11}$ -disubstituted-silane, and

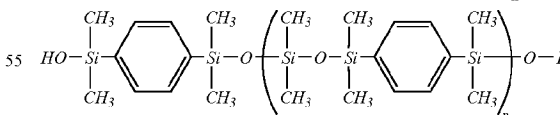
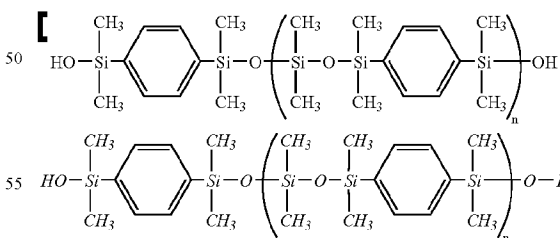
- (d) reacting the prepolymer of step (c) with the 1,4-bis(dimethylamino,  $R^9$ -disubstituted-silyl)butadiyne of step (b) to form the linear polymer.

16. The linear polymer of claim 15 wherein the Ar group is phenylene.

17. A linear polymer made by a process comprising the steps of

- (a) reacting hexachlorobutadiene with n-butyl lithium to form 1,4-dilithio-1,3-butadiyne,  
 (b) reacting the 1,4-dilithio-1,3-butadiyne of step (a) with (dimethylamino)dimethylchlorosilane to form 1,4-bis(dimethylaminodimethylsilyl)butadiyne,

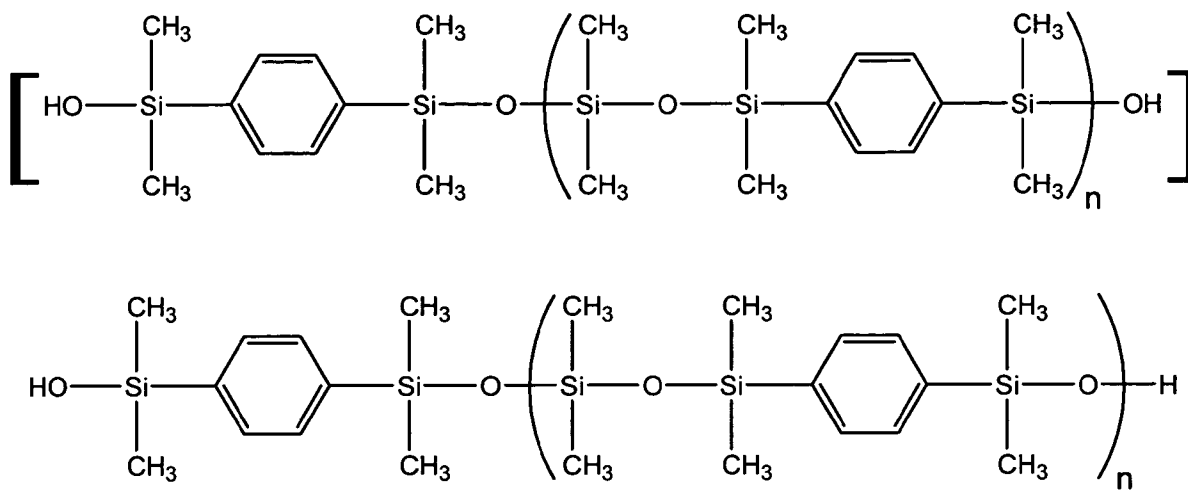
- (c) reacting 1,4-bis(hydroxydimethylsilyl)benzene with bis(dimethylamino)dimethylsilane, to form a prepolymer of the formula:



wherein n is an average value greater than or equal to 0, and wherein the value of n is controlled by selecting the initial molar ratio of 1,4-bis(hydroxydimethylsilyl)benzene and bis(dimethylamino)dimethylsilane, and

- (d) reacting the prepolymer of step (c) with the 1,4-bis(dimethylaminodimethylsilyl)butadiyne of step (b) to form the linear polymer.

17. (amended) A linear polymer made by a process comprising the steps of
- (a) reacting hexachlorobutadiene with n-butyl lithium to form 1,4-dilithio-1,3-butadiyne,
  - (b) reacting the 1,4-dilithio-1,3-butadiyne of step (a) with  
 (dimethylamino)dimethylchlorosilane to form 1,4-bis(dimethylaminodimethylsilyl)butadiyne,
  - (c) reacting 1,4-bis(hydroxydimethylsilyl)benzene with  
 bis(dimethylamino)dimethylsilane, to form a prepolymer of the formula:



wherein n is an average value greater than or equal to 0, and wherein the value of n is controlled by selecting the initial molar ratio of 1,4-bis(hydroxydimethylsilyl)benzene and bis(dimethylamino)dimethylsilane, and

- (d) reacting the prepolymer of step (c) with the 1,4-bis(dimethylaminodimethylsilyl)butadiyne of step (b) to form the linear polymer.

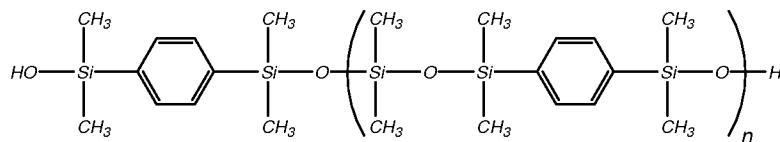
## UNITED STATES PATENT AND TRADEMARK OFFICE CERTIFICATE OF CORRECTION

Page 1 of 1

PATENT NO. : RE39,428  
 APPLICATION NO. : 10/817,440  
 ISSUE DATE : December 12, 2006  
 INVENTOR(S) : Teddy M Keller et al.

It is certified that an error appears or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Column 12, line 55, the formula should appear as follows:



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